ACCURACY DEVICE FOR SEMI-AUTOMATIC PISTOLS

BACKGROUND OF THE INVENTION

This invention relates to means for enhancing the accuracy of a semi automatic pistol of the locked breech type without impairing, or otherwise hindering the functional reliablilty of the weapon. More particularly, this invention relates to means for more accurately engaging the rear portion of the barrel of a semi automatic pistol into the slide and preventing lateral and vertical movement therein.

The accuracy of locked breech type semi automatic pistols, such as the Colt Government Model 45 ACP, is dependant upon the ability of the barrel to be held in exactly the same position in the slide after each firing. In such firearms the frame, sometimes referred to as the receiver, remains stationary relative to the barrel and the slide. The barrel pivots downward and backward about a pivotal link connected to the frame for a limited distance upon the firing of a round. At the same time the slide moves backwardly along the frame, becoming disengaged from locking lugs in the barrel, and continuing its rearward movement sufficiently far to eject the spent cartridge and cock the firing mechnism before returning forward under spring pressure and loading a new cartridge into the firing chamber of the barrel.

Several factors contribute to the accuracy of such a firearm. Obviously the accuracy of the bore with its riflings is important as is the cartridge itself. However, these are parameters which are not affected by the fitting together of the parts within the pistol. There are critical fit dimensions which affect firearm accuracy. These all relate to the slide and barrel since the barrel is more intimately associated with the slide than the frame. Moreover the front and rear sights of the pistol are mounted in the slide and serve as the overall datum of accuracy of the pistol. It follows therefore that the fit of the barrel in the slide will, to a large extent, be determinitive of the accuracy of the pistol. More importantly, the reproducibility of the fit after each firing cycle is determinitive of the guns inherant accuracy potential.

There are several misconceptions regarding just what is required to assure accuracy in a semi automatic pistol of the locked breech type. The following axioms are offered as factors affecting the accuracy of such weapons.

1. the line of sight is the basic accuracy datum and not the frame,
2. the barrel must point to the same place as the sights however the frame does not have to;
3. lateral and vertical positioning of the rear of the barrel in the slide must be uniform from shot to shot;
4. the barrel can be positioned no higher than the interior surface of the slide will allow;
5. the muzzle of the barrel must be held concentrically in the slide from shot to shot;
6. the under-barrel lug serves only to provide uniform longitudinal positioning of the barrel with reference to the slide stop pin as the weapon is presently constituted;
7. the grip frame serves only to provide a handle, enclose the firing mechanism and provide a fixed location in space for the slide stop pin (the fit of the slide and frame rails is of no conseqeuence).
8. the barrel link serves only to unlock the barrel from the slide.

OBJECTS OF THE INVENTION

It is an object of the present invention to provide a semi automatic pistol of the breech block type with means to enhance its accuracy.

It is also an object of the present invention to provide a double tapered barrel tenon which fits with a compatibly configured double tapered slide mortice thereby securing the rear of the barrel against lateral displacement and insuring that the lateral fit of the barrel in the slide is secure and without variation from shot to shot.

Another object of the present invention is to provide an arcuate contoured under-barrel lug which, when cooperating with the slide stop pin, prevents vertical displacement of the rear portion of the barrel when in battery and insures that the barrel remains in the same position from shot to shot.

A still further object of the invention is to provide a means for securing the rear of the barrel in the slide against lateral and vertical displacement when in battery while at the same time allowing unrestricted movement of the barrel within the slide when in counter recoil.

These and other objects are accomplished by (1) uniformly tapering the barrel hood or tenon on each side thereof and providing the sides of the corresponding tenon recess in the slide with the same taper and (2) contouring the under-barrel lug and oversizing the connecting link aperture such that the under-barrel lug rides upon the slide stop pin in such a manner that the barrel is forced both upwardly and forwardly in the slide and held therein in a jam fit position when the barrel is in battery. The lateral width of the tenon recess is slightly smaller than the tenon thereby assuring contact between the tenon and the tenon recess walls and preventing lateral movement of the rear portion of the barrel when the tenon is engaged in the tenon recess. Similarly the barrel is jam fitted between the slide stop pin and the top underside of the slide and is thus prevented from longitudinal and vertical displacement when the weapon is in battery. However, when in counterbattery the barrel is free to pivot downward and backward about the pivotal link connected to the frame.

DRAWINGS

FIG. 1 is a side view of a typical semi-automatic pistol partially broken away to show the barrel, slide, under-barrel lug, connecting link and slide stop pin.

FIG. 2 is a top view of a prior art semi-automatic pistol showing the barrel tenon engaged in the tenon recess of the slide.

FIG. 3 is a top view similar to FIG. 2 modified to show a tapered barrel tenon and tenon recess in the slide.

FIG. 4 is an enlarged fragmentary side view of a portion of a semi-automatic pistol taken along lines 4—4 of FIG. 3 showing the relative positions of the barrel and slide in battery position according to the present invention.

FIG. 5 is an enlarged partial top view of the tenon and tenon recess showing the fit of the tenon in the tenon recess taken along lines 5—5 of FIG. 4.

FIG. 6 is a fragmentary side view similar to FIG. 4 showing the relative position of the barrel and slide at